

AUTOMATED CUSTOMER SURVEY USING THE WEB

Background of the Invention:

[0001] The present invention relates to an Internet software tool, and more particularly relates to a web survey tool for conducting automating customer surveys.

[0002] U.S. Patent 5,893,098 issued April 6, 1999 to Peters et al. for SYSTEM AND METHOD FOR OBTAINING AND COLLATING SURVEY INFORMATION FROM A PLURALITY OF COMPUTER USERS, discloses a system for obtaining information from a plurality of computer users, and an input mechanism by which a survey author may input data. A survey authoring mechanism enables construction of a survey questionnaire document including at least one question formulated from data input by the survey author. The survey questionnaire document is transmitted to a plurality of respondent users who respond to the questionnaire with a response document. A collating mechanism identifies the response documents which include responses to the at least one question. The answers are loaded into a database in accordance with the responses.

[0003] U.S. Patent 6,189,029 issued Feb. 13, 2001 to Fuerst for WEB SURVEY TOOL BUILDER AND RESULT COMPILER, discloses a software tool that permits the creation of electronic surveys and the automatic collection and tabulation of survey results corresponding to user responses.

[0004] A web based survey tool is provided by Aufrance Associates of South Lake Tahoe, CA, and is available at:

[Highsierra.com/highsierra/survey.htm](http://Highsierra.com/highsierra/survey.htm)

[0005] Another web based survey tool is provided by DataInstitutet i Sverige AB of Gothenburg, Sweden, and is available at:

[www.surveyagent.com/eng](http://www.surveyagent.com/eng)

One of the services provided by DataInstitutet is SurveyAgent 2 - E-mail with a "Personal ID-code". In this service, a questionnaire is created by the customer subscriber and delivered to DataInstitutet, where it is converted into a web form and uploaded. The customer sends the e-mail addresses of the participants as a text-file to DataInstitutet. Each respondent receives, via e-mail, a hyperlink to the questionnaire with a unique password for monitoring participant authenticity as well as ensuring that only one response per participant is submitted. When the survey is completed, DataInstitutet returns the questionnaire, as well as the respondents' data, in a business intelligence file to the customer. The business intelligence file enables the customer to analyze, make statistic calculations and present the results.

#### Summary of the Invention:

[0006] The traditional method of surveying customers is by a manual operation, or if automated, than the confidentiality of data collected by the survey is either compromised or requires a separate authentication for each customer.

[0007] This tool allows a confidential survey to be automatically generated and emailed to eliminate the need for customers to call, for instance, a Help Desk. In the present invention, a query is run against a Help Desk problem record tracking database to extract those records which have been closed and are eligible to be surveyed. Rules may include all problem records of a particular type, customers or users of a specific group, and/or how frequently a survey to specific end user is to be made (i.e. only once per a particular time frame). In the present implementation, the query is run by an agent in a Lotus Domino database. The Customer Satisfaction tool takes advantage of the Lotus Domino server to generate a unique Universal Resource Locator (URL) for each survey. This unique URL is an improvement over previous survey tools which required

the user to be assigned a user name or password for authentication. In the present invention, the URL is imbedded into an email which is sent to the customer who initiated the problem record. The customer then uses the URL by either launching a browser link or by cutting-and-pasting the URL to their browser. (This is dependent on the mail tool's ability to launch the browser.) The customer is presented with a web site page that has been customized to that customer and is only accessible through this unique URL. When the survey has been completed and saved by the customer, the customer may not re-enter the web site page, thus preventing duplicate entries of the survey. The present invention provides a way of conducting a survey through either an internet or intranet link and eliminates the problem of establishing user name/password authentications or conducting surveys by placing manual calls to the customers to be surveyed

**[0008]** It is an object of the present invention to provide a survey tool which creates a customer database and sends a survey questionnaire to be posted on a web server, sends emails to qualifying customers which contain customer information and a link to the customer database such that when the customer clicks on the link and completes the survey questionnaire on the web server, the completed survey and customer information is sent to the customer database.

**[0009]** It is another object of the present invention to provide a survey tool in which a unique URL is created for each customer and placed in the email to that customer such that the customer may click on the URL and link to the survey questionnaire on the web server without having to sign on with a password or other authentication.

**[0010]** It is another object of the present invention to provide a survey tool which propagates the survey questionnaire through a firewall to the web server, and which propagates the completed survey and customer information back through the firewall from the web server for analysis.

**[0011]** It is another object of the present invention to provide a survey tool which prevents a customer from linking to the survey questionnaire on the web server after first entering,

completing, and saving the completed survey to prevent the survey from being answered more than once by a customer.

[0012] These and other objects will be apparent to one skilled in the art from the following drawings and detailed description of the invention.

Brief Description of the Drawings:

[0013] The accompanying drawings illustrate the invention as follows:

Fig. 1 is a schematic drawing of a computer network usable with the present invention including an intranet for constructing a survey and analyzing the survey after completion by a customer, and an internet wherein the web is used to communicate with customers to be surveyed; and

Fig. 2 is a flow diagram showing the flow of a tool for constructing a survey, sending it to a customer, and analyzing the results of the survey after being completed by a customer.

Description of the Preferred Embodiment:

[0014] Fig. 1 is a diagram of a system 10 which includes an intranet 12 and a portion of the internet 14. As is known, the internet 14 is a global collection of computer networks that provides individual users the ability to access internet services including the world wide web (web). With internet access, individual users may, among other functions, send electronic mail (also known as email) to other users and remotely login to computers known as servers which are connected to the internet. Connecting to the internet requires a modem, a software communication package and a personal computer system, as well known in the art.

[0015] As is well known in the art, the web is a collection of Hypertext Transfer Protocol (HTTP) servers that incorporate text, graphics, audio files, video, and information in other

formats. Various web browsers enable users to locate and connect to a web page. Before the web page may be located however, it must first be created in, for instance, Hypertext Markup Language (HTML), which is the standard language of the Web, and posted on a server.

**[0016]** In the intranet 12, service files 14 are maintained which indicate users of various customer services such as, for instance, help desk facilities. After each use of the help desk, or at some specified interval, it is desirable to ask the customer to complete a survey to determine the customer satisfaction with the help desk. In the present invention, a customer satisfaction tool 15 pulls closed ticket information and email addresses for the customer user of the help desk from the services files 14 and places them in a customer database 16 on a web server 18 in the intranet 12. The web server 18 may be a Netfinity 3500 web server available from International Business Machines Corporation (IBM) of Armonk, New York. The tool 15 will generate documents for each closed ticket and generate email addresses. In preparation for customer responses, the tool 15 sends a customer survey or questionnaire from the customer database 16 to a server 24 in the internet 14, as indicated at 17. The web server 24 may be a Lotus Domino server available from IBM.

**[0017]** An email having a link to the customer database 16 will be sent to each customer 20 (User 1) and 21 (User 2), as indicated at 22 in Fig. 1. Each email and link will contain information identifying its respective customer. The tool 15 takes advantage of the Lotus Domino server 24 to generate a unique URL link for each survey. The URL is imbedded in the email sent to the customer or end user who initiated the problem record at the help desk. The customers 20 and 21 will then click the link in their respective emails which will link the customers to the web server 24, as shown at 26, which has been previously prepared at 17. The customer is thus able to link to the unique URL generated for that customer without having to sign on with a password or other authentication. The web server 24 will show a form to the responding customer, which may be a questionnaire such as, for instance, a customer satisfaction questionnaire. If the mail tool of end user is not able to launch the browser, that end user may cut-and-paste the URL to the browser. The end user is presented with a web site page that has

been customized to that end user, and is only accessible through this unique URL. When the survey has been completed and saved, the user may not re-enter the web site page.

[0018] After the survey or questionnaire is completed and saved by the end user, the data is propagated down to a depositor replica 28, as shown at 29, where the data will be accessible to the tool 15. The tool 15 pulls the data from the replica 28 and stores it in the customer database 16, as shown at 30, where the data is stored. The tool 15 does any report processing necessary for the data to be viewed for measurements. Finally, the reports are viewed by an administrator 32 for analyzing and evaluating customer satisfaction from the processed data. It will be understood that completed help desk tickets and customer satisfaction are exemplary only, and that the present invention may be used to send questionnaires and surveys of a wide variety using the present invention.

[0019] Fig. 2 is a flow chart showing the process of the present invention. At 40, qualifying data and email addresses are pulled from service files and placed on a customer database. At 42, a customer survey is replicated through the firewall to a web server in preparation for customer responses. At 44, an email is sent to each qualifying customer with a unique link to the customer database, preferably by way of the web server. The email and link contain customer identifying information. At 46, the customer who receives the email clicks the link in the email which links to the web server having the survey. At 48, the customer fills out and saves the survey. At 50, the completed survey propagates to a replica inside the firewall where it is accessible to the survey application or tool. At 52, the survey tool pulls the data, analyzes the data into reports, and stores the data and reports in the customer database. At 54, an administrator views the data and reports, as desired.

[0020] While the preferred embodiment of the invention has been illustrated and described herein, it is to be understood that the invention is not limited to the precise construction herein disclosed, and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.